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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Hiroshi Yamada

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EXAMINER

EOFF, ANCA

ART UNIT

PAPER NUMBER

1795

MAIL DATE

DELIVERY MODE

07/12/2010

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/587,315	Applicant(s) YAMADA ET AL.	
	Examiner ANCA EOF	Art Unit 1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 May 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4 and 6-21 is/are rejected.
- 7) ☒ Claim(s) 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 1-21 are pending in the application.
2. The foreign priority documents JP 2004-018470 filed on January 27, 2004 and JP 2004-237600, filed on August 17, 2004 were received and acknowledged. However, in order to benefit of the earlier filing date, certified English translations are required.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraph of 35 U.S.C. 102 that forms the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claim 19 is rejected under 35 U.S.C. 102(b) as being anticipated by Yokota et al. (WO 03/022594, wherein the citations are from the English equivalent document US Pg-Pub 2004/0157162).

With regard to claim 19, Yokota et al. teach a laser engravable printing element obtained by curing a photosensitive composition (par.0038), wherein the curing occurs by exposing the whole surface to light (par.0108).

Yokota et al. emphasizes that the whole surface is expose to light and a mask in not used (par. 0108). This shows that the cured photosensitive composition is pattern-free.

The photosensitive composition of Yokota et al. is shaped into a sheet or a cyclinder and it is cured with radiation (par.0097).

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This is equivalent to the laser engravable printing substrate comprising a pattern-free photocured photosensitive resin composition of the instant application.

The intended use of the printing substrate for the measurement of the wettability characteristic does not add any patentable weight to the claim.

Therefore, the cured photosensitive composition is shaped into a sheet or a cyclinder of Yokota et al. anticipates the laser engravable printing substrate of claim 19.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-4, 6-18, 20 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yokota et al. (WO 03/022594, wherein the citations are from the English equivalent document US Pg-Pub 2004/0157162) in view of Frass et al. (US Patent 5,378,584) and as evidenced by Cohen (US Patent 4,218,498).

With regard to claims 1, 15 and 21, Yokota et al. disclose a photosensitive resin composition for forming a laser engravable printing element, wherein the photosensitive composition comprises:

(a) a resin having a number average molecular weight between 1,000 and 100,000 and having a polymerizable unsaturated group;

(b) an organic compound having a number average molecular weight of less than 1,000 and having at least one polymerizable group per molecule (par.0024-0026).

Yokota et al. further teach that the photosensitive composition may further comprise an additive, such as a surfactant (par.0092) but fail to teach the compound (c) of the instant claim 1.

Frass et al. teach a radiation-sensitive recording material for the production of printing plates (abstract).

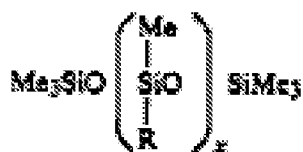
Frass et al. further show that the radiation-sensitive material comprises a surfactant with polysiloxane units (abstract), such as a dialkylsiloxane modified by alkylene oxide units (column 4, lines 20-22) in an amount of 0.1 % by weight of the radiation-sensitive composition (see lines 8-10 and Table 2 in column 8).

Table 2 clearly shows that the printing plates without surfactant are dulled.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to add to the photosensitive composition of Yokota a surfactant such as a dialkylsiloxane modified by alkylene oxide units, as taught by Frass et al., in order to take advantage of the properties of this surfactant.

Frass et al. specifically teach a dimethylsiloxane modified with alkyleneoxide units (Tegopren^R in column 8, lines 8-9).

A siloxane modified by alkylene oxide units (polysiloxane-polyoxyalkylene copolymer) may be represented by the formula:



where

R is (A)_p(OCH₂CHR¹)_pOR''

A is as defined above,

p is 0 or 1,

**R¹ is H or Me and the ratio of units in which R¹ is
 to units in which R¹ is Me > 1:2**

R'' is methyl or acetoxy

(see Cohen in column 3, lines 5-15), wherein A is a linking group, such as alkylene, alkylencarbonyl or a divalent group consisting of C, H and O, the O being present as ether oxygen (column 2, line 66-column 3, line 1).

A siloxane modified by alkylene oxide units meets the limitation for the compound (c) of the instant application which has at least one Si-O bond and no polymerizable unsaturated groups.

Yokota et al. further disclose that a laser engravable printing element is a cured photosensitive resin composition having a shape of a sheet or cylinder (par.0033), as required in claim 15.

Yokota et al. further teach that the laser engravable printing element is obtained by curing the photosensitive composition by light or electron beam (par.0038), wherein the curing occurs by exposing the whole surface to light (par.0108). This meets the limitations of claim 21.

With regard to claim 2, Frass et al. shows that a dimethylsiloxane modified by alkylene oxide units (Tegopren^R) (column 8, lines 8-9).

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Tegopren^R is liquid at room temperature and has a molecular weight of more than 10,000 (see the attached sheet Tegopren^R 7008).

With regard to claim 3, the formula of Cohen shows a Si atom bonded to 2 oxygen atoms, to a group Me and to a group R, which is $(A)_p(OCH_2CHR^1)_yOR''$ (column 3, lines 5-15).

This is equivalent to the silicone compound (1) of the instant application wherein:

- R is Me (linear alkyl group with 1 carbon atom), $p=1$;
- $r=0$;
- when A is an alkylene group (Cohen, column 2, line 66), Q is an alkyl group substituted with polyoxyalkylene groups and $r=1$.

This group Q also meets the limitations of claims 4 and 6.

With regard to claims 7-9, Yokota et al. further disclose that the photosensitive resin further comprises a photopolymerization initiator (d) (par.0091).

Examples of the photopolymerization initiator include benzophenone (par.0091), which is equivalent to the hydrogen extraction polymerization initiator of the instant application, as taught on page 45 of the specification and acetophenones (par.0091), which are equivalent to the degradable photopolymerization initiator of the instant application, as taught on page 46 of the specification of the instant application.

Examples of acetophenones include 2,2-dimethoxy-2-phenylacetophenone (par.0041), which is equivalent to the 2,2-dialkoxy-2-phenylacetophenone of the instant application.

With regard to claim 10, Yokota et al. disclose that the photopolymerization initiator (d) may be 2-methyl-1-(4-methyl-thio)phenyl)-2-morpholino-propane-1-one (par.0091), which is equivalent to the compound having both of a site functioning as the hydrogen extraction photopolymerization initiator and a site functioning as the degradable polymerization initiator in the same molecule, as taught on pages 47-48 of the specification of the instant application.

With regard to claims 11 and 13, Yokota et al. further disclose that the resin (a) has a number average molecular weight between 2,000 and 100,000, more preferably between 5,000 and 100,000 (par.0051) and an average number of polymerizable unsaturated group per molecule of at least 0.7, preferably more than 1.0 (par.0051-0053). The examples of resins (a) in par.0052-0054 are equivalent to the resins (a) of the instant application.

Yokota et al. do not specifically teach that resin (a) is liquid at 20°C.

However, based on the similarities between the resin (a) of Yokota et al. and the resin (a) of the instant application and, absent a record to the contrary, it is the examiner's position that the resin (a) of Yokota et al. is liquid at 20°C (MPEP 2112).

The resin (a) may be a resin with ester bond or urethane bonds (par. 0054).

The compound (b) may also have ester bonds (par. 0063).

With regard to claim 12, Yokota et al. further disclose that the thickness of the printing element is between 0.1 and 15 mm (par.0103), which encompasses the range of the instant application.

As the haze of the photosensitive resin composition is not mention, it is the examiner's position that the haze is 0%.

With regard to claim 14, Yokota et al. further disclose that the printing element may have a coating comprising a silane coupling agent (par.0111), wherein the concentration of the coupling agent in the coating solution is between 0.05 and 10% by weight (par.0115).

The silane coupling agent in the coating layer is equivalent to the organic silicon compound on a surface of the laser engravable printing substrate of the instant application.

Claim 16 provides only for the intended use of the laser engravable printing substrate of claims 14 and 15 in a process of cutting, grinding, polishing and blasting. This intended use does not add any patentable weight to the laser engravable printing substrates of claims 14 or 15.

With regard to claim 17, Yokota et al. further disclose that an elastomer layer is formed by photocuring a resin which is in a liquid state at room temperature (par.0040).

With regard to claim 18, Yokota et al. further teach that the laser engraving process may be performed with lasers in near-infrared range (par.0118).

Claim 20 provides only for the intended use of the laser engravable substrate of claims 14 or 15. The limitations of claim 20 do not add any patentable weight to the laser engravable substrate of claims 14 or 15.

Allowable Subject Matter

7. Claim 5 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Yokota et al. (WO 03/022594), Frass et al. (US Patent 5,378,584) and Cohen (US Patent 4,218,498) do not teach the silicone compound of claim 5.

There is no prior art teaching that would motivate one of ordinary skill in the art to modify Yokota et al. (WO 03/022594), Frass et al. (US Patent 5,378,584) and Cohen (US Patent 4,218,498) and obtain the printing substrate of claim 5.

Response to Arguments

8. Applicant's arguments with respect to claims 1-21 have been considered but are moot in view of the new grounds of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANCA EOFF whose telephone number is (571)272-9810. The examiner can normally be reached on Monday-Friday, 6:30 AM-4:00 PM, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cynthia H. Kelly can be reached on 571-272-1526. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. E./

Examiner, Art Unit 1795

/Cynthia H Kelly/

Supervisory Patent Examiner, Art Unit 1795